

CLAIMS

1. An underwater cleaner (1), more specifically for a swimming pool, said underwater cleaner having a suction nozzle housing (3) with a suction nozzle (2) communicating with a suction chamber (4) and a suction mouth (19) defining a suction plane (16), an exhaust channel (5) to which a filter device (6) is connected commencing at said suction chamber (4), a water jet nozzle (7) through which pressurized water is adapted to be supplied to the suction chamber (4) so as to create a negative pressure in said suction chamber (4) according to the principle of a water jet pump opening out into said suction chamber, **characterized in** that the water jet nozzle (7) opens out into said suction chamber (4) in the region of the suction nozzle (2), with the distance (h) between the water jet nozzle (7) and the suction plane (16) being preferably smaller than the smallest inner width (b) of the exhaust channel (5) and that, in the region where it opens out into the suction chamber (4), a flow centreline (7') of the water jet nozzle (7) is inclined at an angle (α) of $\geq 0^\circ$, preferably of between $>0^\circ$ and $\leq 45^\circ$, with respect to the suction plane (16).
2. The underwater cleaner (1) according to claim 1, **characterized in** that the distance (h) between the water jet nozzle (7) and the suction plane (16) corresponds to maximum 2/3 of the smallest inner width (b), preferably to maximum half the smallest inner width (b) of the exhaust channel (5).
3. The underwater cleaner (1) according to claim 1 or 2, **characterized in** that the distance (h) between the water jet nozzle (7) and the suction plane (16) is smaller than half the maximum height (H) of the suction chamber (4).
4. The underwater cleaner (1) according to any one of the claims 1 through 3, **characterized in** that the maximum distance (h) between the water jet nozzle (7) and the suction plane (16) is 7 cm, preferably 3 cm, most preferably 2.5 cm.

5. The underwater cleaner (1) according to any one of the claims 1 through 4, **characterized in** that the angle (α) between the flow centreline (7') of the water jet nozzle (7) and the suction plane (16) is preferably $\leq 25^\circ$, most preferably $\leq 15^\circ$.
6. The underwater cleaner (1) according to any one of the claims 1 through 5, **characterized in** that a water hose communicating with an external pressure source is connectable to the water jet nozzle (7).
7. The underwater cleaner (1) according to any one of the claims 1 through 5, said underwater cleaner having an integrated, preferably battery-operated submersible pump (10) the pressure socket (9) of which is flow connected to the water jet nozzle (7) through a connecting line (8), **characterized in** that the suction port (11) of the submersible pump (10) is disposed outside of the suction chamber (4), preferably outside of the suction nozzle housing (3), and is hydraulically separated from the suction chamber (4).
8. The underwater cleaner (1) according to claim 7, **characterized in** that the suction port (11) is disposed in the region of the suction plane (16), the spacing (a) between suction port (11) and suction plane (16) being preferably smaller than the maximum height (H), most preferably smaller than half the maximum height (h) of the suction chamber (4).
9. The underwater cleaner (1) according to any one of the claims 1 through 8, said underwater cleaner having an actuation rod (18) inclined toward an actuation side (A) and connected to the suction nozzle housing (3), **characterized in** that the exhaust channel (5) and the filter device (6) are disposed on the actuation side (A) of the suction nozzle housing (3), which is turned toward the user.
10. The underwater cleaner (1) according to any one of the claims 1 through 9, **characterized in** that, on its suction side turned toward the body (15) to be sucked up, the suction nozzle (2) is framed at least partially by the rubber lips or brushes (17) forming the suction mouth (19).

11. The underwater cleaner (1) according to any one of the claims 1 through 10, **characterized in** that the suction nozzle (2) has an inner width (B) that is smaller than the width (b) of the exhaust channel (5).
12. The underwater cleaner (1) according to any one of the claims 1 through 11, **characterized in** that the submersible pump (10) is connected to a battery housing (13) via an electric cable preferably configured to be a spiral channel.
13. The underwater cleaner (1) according to any one of the claims 1 through 12, **characterized in** that the battery housing (13) is preferably detachably fastened to an actuation rod (18) by a rubber band.
14. The underwater cleaner (1) according to any one of the claims 1 through 13, **characterized in** that the axis (5') of the exhaust channel (5) is inclined at an angle (β) of between 0° and 45°, preferably of between 10° and 15° with respect to the suction plane (16).
15. The underwater cleaner (1) according to any one of the claims 1 through 14, **characterized in** that the water jet nozzle (7) opens out into the suction chamber (4) on a side opposite the exhaust channel (5).
16. The underwater cleaner (1) according to any one of the claims 1 through 15, **characterized in** that the water jet nozzle (7) is directed into the exhaust channel (5), the flow centreline (7') being preferred to be inclined at an angle (γ) of less than 180°, preferably of between 150° and 170°, with respect to the axis (5') of the exhaust channel (5).
17. The underwater cleaner (1) according to any one of the claims 1 through 16, **characterized in** that the submersible pump (10) and/or the battery housing (13) are integrated in the suction nozzle housing (3).